

U. S. Application No. 10/635,382
Attorney Docket No. 1999B062A
Reply to Office Action mailed March 7, 2007
Amendment/Response dated July 3, 2007

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) An inner tube comprising a vulcanized blend comprising:

at least 15 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer; and

a second rubber component comprising ethylene-propylene-diene (EPDM) rubber, wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer; and

a reinforcing filler.
2. (Original) The inner tube of Claim 1, wherein the halogenated isobutylene-co-alkylstyrene is brominated isobutylene-co-methylstyrene polymer.
3. (Original) The inner tube of Claim 1, wherein the halogenated isobutylene-co-alkylstyrene is brominated isobutylene-co-*paramethylstyrene* polymer.
4. (Cancelled)
5. (Original) The inner tube of Claim 1, comprising at least 25 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
6. (Original) The inner tube of Claim 1, comprising at least 40 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer.
7. (Cancelled)
8. (currently amended) The inner tube of Claim 1, the blend further comprising a cure package.
9. (currently amended) The inner tube of Claim 8, the blend further comprising a vulcanizing agent, a retarder, a filler, or blends thereof.
10. (Currently amended) The inner tube of Claim 1, wherein the second rubber component is further comprises a rubber selected from the group consisting of

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butyl rubber, chlorobutyl rubber and combinations thereof [provisional at 1/13-15: 3/last paragraph (halogenated butyl rubber); Table 1] ~~natural rubber, polyisoprene rubber, poly(styrene-co-butadiene) rubber (SBR), polybutadiene rubber (BR), poly(isoprene-co-butadiene) rubber (IBR), styrene-isoprene-butadiene rubber (SIBR), polysulfide, nitrile rubber, propylene oxide polymers, and semi-crystalline copolymer (SCC).~~

11. (Previously presented) The inner tube of Claim 1, wherein the halogen is bromine.
12. (Previously presented) The inner tube of Claim 1, wherein the halogen is chlorine.
13. (Currently amended) An inner tube comprising a vulcanized blend comprising:
 - at least 15 parts per hundred rubber halogenated isobutylene-co-methylstyrene polymer wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer; and
 - a second rubber component comprising ethylene-propylene-diene (EPDM) rubber, wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer; and
 - a reinforcing filler.
14. (currently amended) The inner tube of Claim 13, where the second rubber component is further comprises a rubber selected from the group consisting of butyl rubber, chlorobutyl rubber and combinations thereof ~~natural rubber, polyisoprene rubber, poly(styrene-co-butadiene) rubber (SBR), polybutadiene rubber (BR), poly(isoprene-co-butadiene) rubber (IBR), styrene-isoprene-butadiene rubber (SIBR), polysulfide, nitrile rubber, propylene oxide polymers, and semi-crystalline copolymer (SCC).~~
15. (Previously presented) The inner tube of Claim 13, wherein the halogenated isobutylene-co-methylstyrene polymer is brominated isobutylene-co-methylstyrene polymer.

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16. (Previously presented) The inner tube of Claim 13, wherein the halogenated isobutylene-co-methylstyrene polymer is brominated isobutylene-co-*paramethylstyrene* polymer.
17. (Withdrawn - Currently amended) The inner tube of Claim 13, wherein the second rubber component ~~[[is]]~~ further comprises an isobutylene-based rubber.
18. (Withdrawn) The inner tube of Claim 17, wherein the isobutylene based rubber comprises at least 80 weight % isobutylene.
19. (Cancelled)
20. (Previously presented) The inner tube of Claim 13, comprising at least 25 parts per hundred rubber halogenated isobutylene-co-methylstyrene polymer.
21. (Previously presented) The inner tube of Claim 13, comprising at least 40 parts per hundred rubber halogenated isobutylene-co-methylstyrene polymer.
22. (Cancelled)
23. (Original) The inner tube of Claim 13, wherein the blend further comprises a cure package.
24. (Currently amended) The inner tube of Claim 23, wherein the blend further comprises a vulcanizing agent, a retarder, ~~a filler~~, or blends thereof.
25. (Previously presented) The inner tube of Claim 13, wherein the halogen is present from 0.25 to 2.0 mol% relative to the total amount of the polymer.
26. (Original) The inner tube of Claim 25, wherein the halogen is bromine.
27. (Original) The inner tube of Claim 25, wherein the halogen is chlorine.
28. (Currently amended) A tire assembly comprising:
 - a) a tire; and
 - b) an inner tube comprising a vulcanized blend comprising at least 15 parts per hundred rubber halogenated isobutylene-co-alkylstyrene polymer

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wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer; and

a second rubber component comprising ethylene-propylene-diene rubber (EPDM), wherein the halogen is present from 0.1 to 3.0 mol% relative to the total amount of the polymer; and

a reinforcing filler.

29. (Original) The tire assembly of Claim 28, wherein the halogenated isobutylene-co-alkylstyrene polymer is brominated isobutylene-co-methylstyrene polymer.
30. (Original) The tire assembly of Claim 28, wherein the halogenated isobutylene-co-alkylstyrene polymer is brominated isobutylene-co-*paramethylstyrene* polymer.
31. (Currently amended) The tire assembly of Claim 28, wherein the blend second rubber component further comprises ~~ethylene propylene diene~~ an isobutylene based rubber (EPDM).
32. (Currently amended) The tire assembly of Claim 28, wherein the second rubber component is further comprises a rubber selected from the group consisting of butyl rubber, chlorobutyl rubber and combinations thereof natural rubber, polyisoprene rubber, poly(styrene-co-butadiene) rubber (SBR), polybutadiene rubber (BR), poly(isoprene-co-butadiene) rubber (IBR), styrene-isoprene-butadiene rubber (SIBR), polysulfide, nitrile rubber, propylene oxide polymers, and semi-crystalline copolymer (SGC).
33. (Currently amended, withdrawn from consideration) The tire assembly of Claim 28, wherein the second rubber component further comprises a second vulcanizable rubbery copolymer containing from about 85 mol% to about 99.5 mol% combined isoolefin having from 4 to 8 carbon atoms isobutylene-based rubber.
34. (Currently amended, withdrawn from consideration) The tire assembly of Claim 33, wherein the ~~isobutylene-based~~ second rubbery copolymer comprises a copolymer of isobutylene/isoprene.

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35. (Previously presented) The tire assembly of Claim 28, wherein the halogen is present from 0.2 to 2.0 mol% relative to the total amount of polymer.
36. (Original) The tire assembly of Claim 35, wherein the halogen is bromine.
37. (Original) The tire assembly of Claim 35, wherein the halogen is chlorine.
38. (Withdrawn - Currently amended) The inner tube of Claim 1, wherein the second rubber component ~~[[is]] further comprises a rubber selected from the group consisting of halogenated star-branched butyl rubber, brominated butyl rubber, chlorinated butyl rubber, star-branched butyl (polyisobutylene/isoprene copolymer) rubber, star-branched halogenated (brominated or chlorinated) butyl (polyisobutylene/isoprene copolymer) rubber, and poly(isobutylene-co-methylstyrene), and halogenated poly(isobutylene-co-methylstyrene).~~
39. (Withdrawn - Currently amended) The inner tube of Claim 13, wherein the second rubber component ~~[[is]] further comprises a rubber selected from the group consisting of halogenated star-branched butyl rubber, brominated butyl rubber, chlorinated butyl rubber, star-branched butyl (polyisobutylene/isoprene copolymer) rubber, star-branched halogenated (brominated or chlorinated) butyl (polyisobutylene/isoprene copolymer) rubber, and poly(isobutylene-co-methylstyrene), and halogenated poly(isobutylene-co-methylstyrene).~~
40. (Withdrawn - Currently amended) The tire assembly of Claim 28, wherein the second rubber component ~~[[is]] further comprises a rubber selected from the group consisting of halogenated star-branched butyl rubber, brominated butyl rubber, chlorinated butyl rubber, star-branched butyl (polyisobutylene/isoprene copolymer) rubber, star-branched halogenated (brominated or chlorinated) butyl (polyisobutylene/isoprene copolymer) rubber, and poly(isobutylene-co-methylstyrene), and halogenated poly(isobutylene-co-methylstyrene).~~